



**Metropolitan
St. Louis Sewer
District**

Department of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
(314) 436-8710
FAX (314) 436-8753

REC'D
NOV 27 1995
Sverdrup Environmental, Inc.

November 27, 1995

Michael T. May
SVERDRUP ENVIRONMENTAL, INC.
4100 College Boulevard
Suite 160
Overland Park, KS 66211

Site: MOUND ST. PCB
ID #: MO000093682
Break: 15.2
Other: 71-27-95

Dear Mr. May:

We have reviewed your letter dated November 21, 1995 requesting information we may have for the "Mound Street PCB Site" in St. Louis. This site is bounded by Mound Street, First Street, Mullanphy Street and the Mississippi River flood wall.

The type of information requested was sampling information from 1993, any additional sampling or information from that time period or other time periods, and a storm sewer map of the adjacent pump station and the area. A search of our files revealed the following information: sampling results from 1993, a special problem investigation report from 1993, correspondence from the Terminal Railroad manager received September 30, 1993, and previous investigation reports from 1982 and 1983. We have also included a copy of the portion of our most current base maps that covers the area in question. If you desire more detailed information regarding the sewers or pump station, you may want to contact our Mapping Division at (314) 768-6200.

Pursuant to MSD Board Resolution No. 1931, you will be billed by invoice for the enclosed copies. By copy of this letter, we have advised our Finance Department to bill you as follows:

10 pages at \$.10 per page.....	= \$ 1.00
9 pages at \$.04 per page.....	= \$ 0.36
Postage.....	= \$ 1.01
Labor for locating and retrieving documents.....	= <u>\$26.60</u>

Total to be billed = \$28.97

Do not pay the amount shown until you receive an invoice from our Finance Department. If you have any questions, please call me at (314) 436-8717.

Sincerely,
METROPOLITAN ST. LOUIS SEWER DISTRICT

Douglas M. Mendoza

Douglas M. Mendoza, P.E.
Industrial Waste Engineer

30024364



Superfund

ph

Enclosures

pc: Helen Williams, Finance Dept.

SPECIAL PROBLEM INVESTIGATION
DEPARTMENT OF ENVIRONMENTAL COMPLIANCE

CONTROL NUMBER: 93 07 08
YR MO DAY

CROSS REFERENCE: _____

NEW FILE: BROOKLYN STREET PUMP STATION

TO: HOWARD EDMOND FROM: SI SMITH
DATE ASSIGNED: 07-08-93 TIME: 0800
SUBJECT: OIL IN BROOKLYN STREET PUMP STATION
SPECIAL INSTRUCTIONS: LOCATE SOURCE OF OIL ENTERING BROOKLYN STREET PUMP STATION AND TAKE CORRECTIVE ACTION

STREET ADDRESS: FOOT OF BROOKLYN STREET ZIP CODE: 63102
NEAREST INTERSECTION: MULLANPHY MAP COORDINATES: 28-D-19

TYPE OF PROBLEM: OIL ENTERING PUMP STATION
TRUNK SEWER: BCH TRTMT PLANT: BISELL WATER COURSE: N/A

VOLUME: UNKNOWN QUANTITY: UNKNOWN
CAUSE: POSSIBLE LEAKING TANK

PERSON REPORTING: _____ TELEPHONE: _____
CONTACT PERSON: JAMES GARAVAGLIA TELEPHONE: 622-3588

DATE OF INCIDENT: ON GOING RESPONSIBLE PARTY: CITY OF ST. LOUIS
REGULATORY AGENCY CONTACTED: MSD, MODNR, FIRE DEPT, & CITY OF ST. LOUIS
CLEAN UP BY: REACT ENVIRONMENTAL ENGINEERS

COMPLETION DATE: 08-19-93 DAMAGES BILLED (\$): _____

INVESTIGATIVE ACTION SUMMARY: 07-08-93 Call from MSD pump station stating oil was entering Brooklyn pump station. I obtained a sample for analysis. Started looking for possible source. Located an under ground storage tank, which has large hole in the top, on the south side of a vacant building located just west of the pump station and south of Brooklyn Street. A sample of the oil still in this tank was collected. The analysis of the oil from the pump sta contained 47 mg/l of 1254 pcb's and the oil from the tank contained 39 mg/l of 1254 pcb's. I contacted Charlie Gay of the Fire Marshall's office and met him at the site on 07-16-93 to show him the problem and to obtain help in finding owner of property. Charlie contacted Chief Horn, informed him of the situation. Chief Horn contacted James Garavaglia of the comptroller's office. We met at site. It was determined at this time that the City of St. Louis is the owner of the east half of the property between 1st St. and the flood wall and Wheeler Ferry Company owns the west half. Cont. Page two

CONCLUSION: It appears at this time an underground storage tank is the cause of this problem. Also the possibility exist of ground saturation of oil from an old Union Electric building.

Copy sent to: _____ Date: _____

SPECIAL PROBLEM INVESTIGATION continued:

Page 2 of 3

93 07 08
Yr Mo Day
BROOKLYN PUMP STATION

DETAILS OF INVESTIGATION: The City is to locate owners of the property and take action on getting area cleaned up. They contacted React Environmental Engineers.

07-16-93 Met with city engineers and React to determine what is to be done. At the present time React is placing booms in the wet well of the pump station to soak up the oil entering. It was not determined at this time what to do with the underground tank. React wanted to trench along the sewer entering the pump station but due to the high water table and the possibility of causing a major problem with the flood waters no trench at this time.

07-26-93 Returned to the pump station to follow up on the clean up. React did not place booms in station they only put absorbent pads. The pump station maintenance crew removed the pads to prevent them from being pulled into the pumps since they were not tied down. I contacted the city comptroller and informed him of this problem. React contacted me and I told them that they had to use booms inside the station and tied to prevent any possibility of being pulled into the pumps or move outside station into the first manhole up stream to collect the oil.

07-27-93 Met Chief Horn at the pump station. React has installed boom and they are tied. Checked the underground tank and nothing has been done to the tank. It still has oil standing in the bottom. It appears that there could be at least 6 to 8 inches of oil in the tank. There is still a small oil sheen on the water entering the station. Chief Horn is to find out what is to be done with the tank and let me know.

07-28-93 Met Chief Horn and Clifford Trice, chief engineer for Terminal Railroad Association at the site of the underground tank. It has been determined that the property belongs to Terminal Railroad. They are to take steps to remove the tank.

07-29-93 Received call from Daryl Bowles, Gehm Corp, rep for Terminal Railroad requesting copies of analysis on pump station and tank. They are to perform an infrared test on area to try and determine just where the oil is entering the sewer. Test is to be done first week of August. Copies of analysis sent.

08-03-93 Made follow up on progress of clean up. The area around the tank has been cleaned up and graded but the opening to the tank has been covered. No way at this time to tell if tank has been pumped. The booms at the pump station do not appear to have been serviced since they were last installed. *TB*

SPECIAL PROBLEM INVESTIGATION continued

PAGE 3 of 3
93 07 08
Yr Mo Day
BROOKLYN PUMP STATION

08-04-08 Met with Terminal Railroad, consulting company and fire department underground tank is being pumped out today. Tank will be removed as soon as the water level goes down. The infrared pictures that were taken do not indicate the source of oil in pump station is from tank. They did indicated a possible location of another underground tank on the city property just south of Mound Street. Fire department was notified.

08-08-93 1015 Hrs Received call from Chief Horne requesting my presents at 1st & Mullanphy. Three manholes were located along the flood wall which contained a large amount of oil. Could not determine at this time where oil is coming from. The manholes are holding water. I will return 08-09-93 to collect samples to find out if pcb's are present. There is some question as to the manholes belonging to MSD or the City.

08-09-93 Collected oil samples from all three manholes. Waiting on analysis.

08-10-93 Met Charlie Gay of fire department. He wanted to know where the manholes were located that contain this last source of oil. Also wanted to look at clean up that was preformed on the underground tank. The tank has been pumped and washed out. The oil has been remove.

08-17-93 The analysis of the samples taken from the manholes indicated they also contained a small amount of pcb 1254. These manhole belong to the city and Fire Marshall Horne was notified of this fact and also the results of the analysis on the manholes. The pads at the pump station have not been changed as of 08-17-93. Chief Horne was also informed of this situation.

08-19-93 The pads at the pump station were changed yesterday 08-18-93. The City of St. Louis is now taking care of having this problem cleaned up. *th*

Petroleum Fuel & Terminal
Foot of Mullanphy Street
St. Louis, Missouri 63102
(314) 621-0522

Charles Gay
Fire Inspector
Fire Prevention Bureau
1421 North Jefferson
St. Louis, Missouri 63106

Dear Mr. Gay

Per our conversation on September 3, 1993. We discovered the leak during our yearly hydro testing of our pipe lines/hoses. When we experienced a loss of 25# lb of pressure.

We then started to isolate the most likely place and this would be in the expansion joint at the sea wall. After excavating the site we then found a small pen hole in a 6 inch pipe line. After making the necessary repairs we decided to take this pipe line out of service.

We recovered 2 1/2 bbls of oil/soil to be disposed of. If you feel the need to contact me on this matter please feel free to do so at (314) 621-0522.

Thank you

Randell H. Lewis
Randell H. Lewis
Terminal Manager

HC
9/26/93

Post-It™ brand fax transmittal memo 7671 [+ 0 pages]

To: Flowers Europe	From: Charles Gay
Co.	Co.
Dept.	Phone #
Fax #	Fax #

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
SPECIAL SAMPLE FORM

Lab. No.

886

Comp.

Grab

Date Received

8/9/93

Sample Date

8/9/93

Sample Time

0845

to

Requested by:

HEDMOND

Collected by:

JAMIE

Sample Source:

MH # MH#2 F-6A1

Truck No.

Sampling Location:

NEXT TO FLOOD WALL & MULCH ANPARK

Reason for sample:

TO DETERMINE IF PCB'S PRESENT

- Trunk Sanitary Stream Storm Seepage STP Hauler
 Industry Other (explain)

Analysis: except
as noted

mg/L ug/L mg/kg % comp

other

- | | | | |
|---------------------------------|------------|---|-----------------------------|
| <input type="checkbox"/> pH | (units) | <input type="checkbox"/> F | <input type="checkbox"/> Hg |
| <input type="checkbox"/> SPC | (umhos/cm) | <input type="checkbox"/> Cl | <input type="checkbox"/> As |
| <input type="checkbox"/> ALK | | <input type="checkbox"/> CN | <input type="checkbox"/> Ba |
| <input type="checkbox"/> ACI | | <input type="checkbox"/> CNA | <input type="checkbox"/> Be |
| <input type="checkbox"/> TS | | <input type="checkbox"/> KJN | <input type="checkbox"/> Cd |
| <input type="checkbox"/> SS | | <input type="checkbox"/> NH ₃ | <input type="checkbox"/> Cr |
| <input type="checkbox"/> VSS | | <input type="checkbox"/> NO ₃ | <input type="checkbox"/> Cu |
| <input type="checkbox"/> %V | | <input type="checkbox"/> NO ₂ | <input type="checkbox"/> Fe |
| <input type="checkbox"/> SET | (ml/L) | <input type="checkbox"/> PHT | <input type="checkbox"/> Pb |
| <input type="checkbox"/> GRE | | <input type="checkbox"/> PHO | <input type="checkbox"/> Ni |
| <input type="checkbox"/> BOD | | <input type="checkbox"/> SO ₄ | <input type="checkbox"/> Se |
| <input type="checkbox"/> COD | | <input type="checkbox"/> SO ₃ | <input type="checkbox"/> Ag |
| <input type="checkbox"/> TOC | | <input type="checkbox"/> S | <input type="checkbox"/> Zn |
| <input type="checkbox"/> PHE | | <input type="checkbox"/> SUR | <input type="checkbox"/> Ti |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> Sb |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Color: | | <input type="checkbox"/> Cr ⁺⁶ | <input type="checkbox"/> |

Odor: Tot. Hardness

Appearance: Tot. Chlorine

Organics IR GC LEL RAD UV FLUOR ID

Biological: Bioassay: Total Coli: _____ No./100ml

_____ Microscopic: Fecal Coli: _____ No./100ml

_____ _____ FecalStrep: _____ No./100ml

Remarks: CHECK FOR PCB'S

Date Transmitted: 8/17/93

by: MARIO J. DRYRIM

MSD ENVIRONMENTAL COMPLIANCE LABORATORY

INSTRUMENTATION ANALYSIS

Lab. No. 886 Sample Source Mankhole F-CAT (#12) Date Received 8/7/93
 Sample Date 8/7/93 Time: 0845 Grab Comp Collected by _____

IR GC LEL RAD UV FLUOR TLC

Priority Pollutant mg/L (except as noted)

VOLATILES:

acrolein	
acrylonitrile	
benzene	<u>21.0</u>
bromodichloromethane	
bromoform	
bromomethane	
carbon tetrachloride	
chlorobenzene	
chloroethane	
2-chloroethyl vinyl ether	
chloroform	
chloromethane	
dibromochloromethane	
1,2-dichlorobenzene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,1-dichloroethane	
1,2-dichloroethane	
1,1-dichloroethene	
trans-1, 2-dichloroethene	
1,2-dichloropropane	
1, 3-dichloropropene, cis	
1, 3-dichloropropene, trans	<u>32.0</u>
ethyl benzene	
methylene chloride	
1,1,2,2-tetrachloroethane	
tetrachloroethene	
toluene	<u>21.0</u>
1,1,1-trichloroethane	
1,1,2-trichloroethane	
trichloroethene	
vinyl chloride	

ACIDS:

4-chloro-3-methylphenol	
2-chlorophenol	
2,4-dichlorophenol	
2,4-dimethylphenol	
4, 6-dinitro-2-methylphenol	

BASE/NEUTRALS:

acenaphthene	
acenaphthylene	
anthracene	
benzidine	
benzo(a)anthracene	
benzo(a)pyrene	
benzo (b) fluoranthene	
benzo (q,h,i) perylene	
benzo (k) fluoranthene	
bis (2-chloroethoxy) methane	
bis (2-chloroethyl) ether	
bis (2-chloroisopropyl) ether	
bis (2-ethylhexyl) phthalate	
4-bromophenyl phenyl ether	
butyl benzyl phthalate	
2-chloronaphthalene	
4-chlorophenyl phenyl ether	
chrysene	
dibenzo (a,h) anthracene	
3,3-dichlorobenzidine	
diethyl phthalate	
dimethyl phthalate	
di-n-butyl phthalate	
di-n-octyl phthalate	
2,4-dinitrotoluene	
2,6-dinitrotoluene	
1,2-diphenylhydrazine	
fluoranthene	
fluorene	
hexachlorobenzene	
hexachlorobutadiene	

BASE/NEUTRALS: (Cont'd)

hexachlorocyclopentadiene	
hexachloroethane	
indeno (1,2,3-cd) pyrene	
isophorone	
naphthalene	
nitrobenzene	
N-nitrosodimethylamine	
N-nitrosodi-n-propylamine	
N-nitrosodiphenylamine	
phenanthrene	
pyrene	
2,3,7,8-tetrachlorodibenzo-p-dioxin	
1,2,4-trichlorobenzene	

PESTICIDES:

aldrin	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
chlordane	
4,4-DDD	
4,4-DDE	
4,4-DDT	
dieletrin	
alpha-endosulfan	
beta-endosulfan	
endosulfan sulfate	
endrin	
endrin aldehyde	
heptachlor epoxide	
heptachlor	
PCB-1016	<u>21.0</u>
PCB-1221	
PCB-1232	
PCB-1242	
PCB-1248	<u>21.0</u>
PCB-1254	<u>25.4</u>
PCB-1260	<u>21.0</u>
toxaphene	

Gas Chromatography results: Run Method 203 on Volatiles

GC/FID resembles Diesel Fuel

Thin-Layer Chromatography results: _____

Appearance: _____

Odor: _____

API Gravity: _____

Solubilities: _____

Distillation Range: _____

Flash Point: _____

Special Tests: (specify)

Conclusions P+th Infrared spectra and GC/FID resemble Diesel Fuel

Date Transmitted: 8/13/93

by: Daniel Florida

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
SPECIAL SAMPLE FORM

Lab. No. 887

Comp Grab

Date Received 8/9/93

Sample Date 8/9/93

Sample Time: 0835

8/9/93

to SAME

Requested by: HEDMOND

Collected by:

Truck No.

Sample Source: MH # MH 013 F-641

Sampling Location: NEAR TO FLOOD WALL AT MULLANYA

Reason for sample: TO DETERMINE IF PCB'S PRESENT

- Trunk Sanitary Stream Storm Seepage STP Hauler
 Industry Other (explain)

Analysis: except as noted mg/L ug/L mg/kg % comp other

- | | | | |
|---------------------------------|------------|---|--|
| <input type="checkbox"/> pH | (units) | <input type="checkbox"/> F | <input type="checkbox"/> Hg |
| <input type="checkbox"/> SPC | (umhos/cm) | <input type="checkbox"/> Cl | <input type="checkbox"/> As |
| <input type="checkbox"/> ALK | | <input type="checkbox"/> CN | <input type="checkbox"/> Ba |
| <input type="checkbox"/> ACI | | <input type="checkbox"/> CNA | <input type="checkbox"/> Be |
| <input type="checkbox"/> TS | | <input type="checkbox"/> KJN | <input type="checkbox"/> Cd |
| <input type="checkbox"/> SS | | <input type="checkbox"/> NH ₃ | <input type="checkbox"/> Cr |
| <input type="checkbox"/> VSS | | <input type="checkbox"/> NO ₃ | <input type="checkbox"/> Cu |
| <input type="checkbox"/> %V | | <input type="checkbox"/> NO ₂ | <input type="checkbox"/> Fe |
| <input type="checkbox"/> SET | (ml/L) | <input type="checkbox"/> PHT | <input type="checkbox"/> Pb |
| <input type="checkbox"/> GRE | | <input type="checkbox"/> PHO | <input type="checkbox"/> Ni |
| <input type="checkbox"/> BOD | | <input type="checkbox"/> SO ₄ | <input type="checkbox"/> Se |
| <input type="checkbox"/> COD | | <input type="checkbox"/> SO ₃ | <input type="checkbox"/> Ag |
| <input type="checkbox"/> TOC | | <input type="checkbox"/> S | <input type="checkbox"/> Zn |
| <input type="checkbox"/> PHE | | <input type="checkbox"/> SUR | <input type="checkbox"/> Ti |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> Sb |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Color: | | <input type="checkbox"/> Cr ⁺⁶ | <input type="checkbox"/> |
| <input type="checkbox"/> Odor: | | | <input type="checkbox"/> Tot. Hardness |

Appearance: _____ Tot. Chlorine _____

Organics IR GC LEL RAD UV FLUOR ID _____

Biological: Bioassay:

Total Coli: _____ No./100ml

_____ Microscopic:

Fecal Coli: _____ No./100ml

FecalStrep: _____ No./100ml

Remarks: CHECK FOR PCB'S

Date Transmitted: 8/17/93

by: MAILED TO DPPR/AB

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
INSTRUMENTATION ANALYSIS

Lab No. 887 Sample Source: Hawthorne F-6A1 (#3) Date Received 8/9/93
 Sample Date: 8/9/93 Time: 0835 Grab Comp Collected by: _____

IR GC LEL RAD UV FLUOR TLC

Priority Pollutant mg/L

VOLATILES:

acrolein	
acrylonitrile	
benzene	<u>21.0</u>
bromodichloromethane	
bromoform	
bromomethane	
carbon tetrachloride	
chlorobenzene	
chloroethane	
2-chloroethyl vinyl ether	
chloroform	
chloromethane	
dibromo-chloromethane	
1,2-dichlorobenzene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,1-dichloroethane	
1,2-dichloroethane	
1,1-dichloroethane	
trans-1, 2-dichloroethene	
1,2-dichloropropene	
1, 3-dichloropropene, cis	
1, 3-dichloropropene, trans	
ethyl benzene	<u>21.0</u>
methylene chloride	
1,1,2,2-tetrachloroethane	
tetrachloroethene	
toluene	<u>21.0</u>
1,1,1-trichloroethane	
1,1,2-trichloroethane	
trichloroethene	
Vinyl chloride	

ACIDS:

4-chloro-3-methylphenol	
2-chlorophenol	
2,4-dichlorophenol	
2,4-dimethylphenol	
4, 6-dinitro-2-methylphenol	

(except as noted)

ACIDS: (Cont'd)

2,4-dinitrophenol	
2-nitrophenol	
4-nitrophenol	
pentachlorophenol	
phenol	
2,4,6-trichlorophenol	

BASE/NEUTRALS

acenaphthene	
acenaphthylene	
anthracene	
benzidine	
benzo(a)anthracene	
benzo(a)pyrene	
benzo (b) fluoranthene	
benzo (g,h,i) perylene	
benzo (k) fluoranthene	
bis (2-chloroethoxy) methane	
bis (2-chloroethyl) ether	
bis (2-chloroisopropyl) ether	
bis (2-ethylhexyl) phthalate	
4-bromophenyl phenyl ether	
butyl benzyl phthalate	
2-chloronaphthalene	
4-chlorophenyl phenyl ether	
chrysene	
dibenzo (a,h) anthracene	
3,3-dichlorobenzidine	
diethyl phthalate	
dimethyl phthalate	
di-n-butyl phthalate	
di-n-octyl phthalate	
2,4-dinitrotoluene	
2,6-dinitrotoluene	
1,2-diphenylhydrazine	
fluoranthene	
fluorene	
hexachlorobenzene	
hexachlorobutadiene	

BASE/NEUTRALS: (Cont'd)

hexachlorocyclopentadiene	
hexachloroethane	
indeno (1,2,3-cd) pyrene	
isophorone	
naphthalene	
nitrobenzene	
N-nitrosodimethylamine	
N-nitrosodi-n-propylamine	
N-nitrosodiphenylamine	
phenanthrene	
pyrene	
2,3,7,8-tetrachlorodibenzo-p-dioxin	
1,2,4-trichlorobenzene	

PESTICIDES:

aldrin	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
chlordane	
4,4'-DDD	
4,4-DDE	
4,4-DDT	
dieleadrin	
alpha-endosulfan	
beta-endosulfan	
endosulfan sulfate	
endrin	
endrin aldehyde	
heptachlor epoxide	
heptachlor	

PCB-1016	<u>21.0</u>
PCB-1221	
PCB-1232	
PCB-1242	
PCB-1248	
PCB-1254	
PCB-1260	
toxaphene	

21.0
11.7
21.0

Gas Chromatography results: Run Method 203 on Volatiles

GC/FID resembles Diesel Fuel

Thin-Layer Chromatography results: _____

Appearance: _____

Odor: _____

API Gravity: _____

Solubilities: _____

Distillation Range: _____

Flash Point: _____

Special Tests: (specify)

Conclusions Infrared spectra and GC/FID resemble Diesel Fuel

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
SPECIAL SAMPLE FORM

Lab. No. 888 Comp Grab Date Received 8/9/93

Sample Date 8/9/93 Sample Time 0825 to 0830

Requested by HEDMOND Collected by SAME Truck No. _____

Sample Source: MH F MH 14 F-6A1

Sampling Location: NEXT TO FLUID WALL AT MULLENPHY

Reason for sample: TO DETERMINE IF PCB'S PRESENT

- Trunk Sanitary Stream Storm Seepage STP Hauler
 Industry Other (explain) _____

Analysis: except as noted mg/L ug/L mg/kg % comp other

- | | | | |
|---------------------------------|-------------------|---|--|
| <input type="checkbox"/> pH | <u>(units)</u> | <input type="checkbox"/> F | <input type="checkbox"/> Hg |
| <input type="checkbox"/> SPC | <u>(umhos/cm)</u> | <input type="checkbox"/> Cl | <input type="checkbox"/> As |
| <input type="checkbox"/> ALK | | <input type="checkbox"/> CN | <input type="checkbox"/> Ba |
| <input type="checkbox"/> ACI | | <input type="checkbox"/> CNA | <input type="checkbox"/> Be |
| <input type="checkbox"/> TS | | <input type="checkbox"/> KJN | <input type="checkbox"/> Cd |
| <input type="checkbox"/> SS | | <input type="checkbox"/> NH ₃ | <input type="checkbox"/> Cr |
| <input type="checkbox"/> VSS | | <input type="checkbox"/> NO ₃ | <input type="checkbox"/> Cu |
| <input type="checkbox"/> %V | | <input type="checkbox"/> NO ₂ | <input type="checkbox"/> Fe |
| <input type="checkbox"/> SET | <u>(mL/L)</u> | <input type="checkbox"/> PHT | <input type="checkbox"/> Pb |
| <input type="checkbox"/> GRE | | <input type="checkbox"/> PHO | <input type="checkbox"/> Ni |
| <input type="checkbox"/> BOD | | <input type="checkbox"/> SO ₄ | <input type="checkbox"/> Se |
| <input type="checkbox"/> COD | | <input type="checkbox"/> SO ₃ | <input type="checkbox"/> Ag |
| <input type="checkbox"/> TOC | | <input type="checkbox"/> S | <input type="checkbox"/> Zn |
| <input type="checkbox"/> PHE | | <input type="checkbox"/> SUR | <input type="checkbox"/> Ti |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> Sb |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Color: | | <input type="checkbox"/> Cr ⁺⁶ | <input type="checkbox"/> |
| <input type="checkbox"/> Odor: | | | <input type="checkbox"/> Tot. Hardness _____ |

Appearance: _____ Tot. Chlorine _____

Organics IR GC LEL RAD UV FLUOR ND _____

Biological: Bioassay: Total Coli: _____ No./100ml

_____ Microscopic: Fecal Coli: _____ No./100ml

_____ _____ FecalStrep: _____ No./100ml

Remarks: CHECK FOR PCB'S

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
INSTRUMENTATION ANALYSIS

Lab No. 888 Sample Source: New York F-6A1 (#14) Date Received 8/9/93
 Sample Date 8/9/93 Time: 0825 Grab Comp Collected by:

IR GC LEL RAD UV FLUOR TLC

<input type="checkbox"/> Priority Pollutant	mg/L	(except as noted)	
<input type="checkbox"/> VOLATILES:			
acrolein			
acrylonitrile			
X benzene	<u>21.0</u>		
bromodichloromethane			
bromoform			
bromomethane			
carbon tetrachloride			
chlorobenzene			
chloroethane			
2-chloroethyl vinyl ether			
chloroform			
chloromethane			
dibromochloromethane			
1,2-dichlorobenzene			
1,3-dichlorobenzene			
1,4-dichlorobenzene			
1,1-dichloroethane			
1,2-dichloroethane			
1,1-dichloroethane			
trans-1,2-dichloroethene			
1,2-dichloropropane			
1, 3-dichloropropene, cis			
1, 3-dichloropropene, trans			
ethyl benzene	<u>21.0</u>		
methylene chloride			
1,1,2,2-tetrachloroethane			
tetrachloroethene			
X toluene	<u>21.</u>		
1,1,1-trichloroethane			
1,1,2-trichloroethane			
trichloroethene			
vinyl chloride			
<input type="checkbox"/> ACIDS:			
4-chloro-3-methylphenol			
2-chlorophenol			
2,4-dichlorophenol			
2,4-dimethylphenol			
4, 6-dinitro-2-methylphenol			
		ACIDS: (Cont'd)	
		2,4-dinitrophenol	
		2-nitrophenol	
		4-nitrophenol	
		pentachlorophenol	
		phenol	
		2,4,6-trichlorophenol	
		<input type="checkbox"/> BASE/NEUTRALS	
		acenaphthene	
		acenaphthylene	
		anthracene	
		benzidine	
		benzo(a)anthracene	
		benzo(a)pyrene	
		benzo (b) fluoranthene	
		benzo (q,h,i) perylene	
		benzo (k) fluoranthene	
		bis (2-chloroethoxy) methane	
		bis (2-chloroethyl) ether	
		bis (2-chloroisopropyl) ether	
		bis (2-ethylhexyl) phthalate	
		4-bromophenyl phenyl ether	
		butyl benzyl phthalate	
		2-chloronaphthalene	
		4-chlorophenyl phenyl ether	
		chrysene	
		dibenzo (a,h) anthracene	
		3,3-dichlorobenzidine	
		diethyl phthalate	
		dimethyl phthalate	
		di-n-butyl phthalate	
		di-n-octyl phthalate	
		2,4-dinitrotoluene	
		2,6-dinitrotoluene	
		1,2-diphenylhydrazine	
		fluoranthene	
		hexachlorobenzene	
		hexachlorobutadiene	
		<input type="checkbox"/> BASE/NEUTRALS: (Cont'd)	
		hexachlorocyclopentadiene	
		hexachloroethane	
		indeno (1,2,3-cd) pyrene	
		isophorone	
		naphthalene	
		nitrobenzene	
		N-nitrosodimethylamine	
		N-nitrosodi-n-propylamine	
		N-nitrosodiphenylamine	
		phenanthrene	
		pyrene	
		2,3,7,8-tetrachlorodibenzo-p-dioxin	
		1,2,4-trichlorobenzene	
		<input type="checkbox"/> PESTICIDES:	
		aldrin	
		alpha-BHC	
		beta-BHC	
		gamma-BHC	
		delta-BHC	
		chlordane	
		4,4-DDD	
		4,4-DDE	
		4,4-DDT	
		diehrin	
		alpha-endosulfan	
		beta-endosulfan	
		endosulfan sulfate	
		endrin	
		endrin aldehyde	
		heptachlor epoxide	
		heptachlor	
		PCB-1016	<u>21.0</u>
		PCB-1221	
		PCB-1232	
		PCB-1242	
		PCB-1248	
		PCB-1254	<u>21.0</u>
		PCB-1260	<u>21.0</u>
		toxaphene	

Gas Chromatography results: Run Method 2C3 on Volatiles

GCFID resembles Diesel Fuel

Thin-Layer Chromatography results:

Appearance:

X Infrared Spectroscopy (a) methods utilized: Smear test

Odor:

(b) results: 2920 cm⁻¹ - Strong - Triplet

API Gravity:

1460 cm⁻¹ - Moderate - Singlet

Solubilities:

1350 cm⁻¹ - Moderate - Singlet

Distillation Range:

1600 cm⁻¹ - Moderate - Singlet

Flash Point:

Special Tests: (specify)

Conclusions Infrared spectra and GCFID resemble Diesel Fuel.

MSD ENVIRONMENTAL COMPLIANCE LABORATORY
INSTRUMENTATION ANALYSIS

Lab. No. 434 Sample Source: UST Brooklyn & Mound Date Received 7/15/93
 Sample Date 7/14/93 Time: 10:00 AM Grab Comp Collected by: _____

IR GC LEL RAD UV FLUOR TLC

<input type="checkbox"/> Priority Pollutant	mg/L	(except as noted)	
<input type="checkbox"/> VOLATILES:		ACIDS: (Cont'd)	BASE/NEUTRALS: (Cont'd)
acrolein		2,4-dinitrophenol	hexachlorocyclopentadiene
acrylonitrile		2-nitrophenol	hexachloroethane
benzene		4-nitrophenol	indeno (1,2,3-cd) pyrene
bromodichloromethane		pentachlorophenol	isophorone
bromoform		phenol	naphthalene
bromomethane		2,4,6-trichlorophenol	nitrobenzene
carbon tetrachloride			N-nitrosodimethylamine
chlorobenzene			N-nitrosodi-n-propylamine
chloroethane			N-nitrosodiphenylamine
2-chloroethyl vinyl ether			phenanthrene
chloroform			pyrene
chloromethane			2,3,7,8-tetrachlorodibenzo-p-dioxin
dibromochloromethane			1,2,4-trichlorobenzene
1,2-dichlorobenzene			
1,3-dichlorobenzene			<input type="checkbox"/> PESTICIDES:
1,4-dichlorobenzene			aldrin
1,1-dichloroethane			alpha-BHC
1,2-dichloroethane			beta-BHC
1,1-dichloroethene			gamma-BHC
trans-1, 2-dichloroethene			delta-BHC
1,2-dichloropropane			chlordane
1, 3-dichloropropene, cis			4,4'-DDD
1, 3-dichloropropene, trans			4,4'-DDT
ethyl benzene			deeldrin
methylene chloride			alpha-endosulfan
1,1,2,2-tetrachloroethane			beta-endosulfan
tetrachloroethene			endosulfan sulfate
toluene			endrin
1,1,1-trichloroethane			endrin aldehyde
1,1,2-trichloroethane			heptachlor epoxide
trichloroethene			heptachlor
vinyl chloride			
<input type="checkbox"/> ACIDS:			PCB-1018 <u><1.0</u>
4-chloro-3-methylphenol			PCB-1221 <u><1.0</u>
2-chlorophenol			PCB-1232 <u><1.0</u>
2,4-dichlorophenol			PCB-1242 <u><1.0</u>
2,4-dimethylphenol			PCB-1248 <u><1.0</u>
4, 6-dinitro-2-methylphenol			PCB-1254 <u>39.0</u>
			PCB-1280 <u><1.0</u>
			toxaphene

Gas Chromatography results: _____

Thin-Layer Chromatography results: _____

Appearance: Dark oil

Infrared Spectroscopy (a) methods utilized: Smauer test
1920 - Strong - Triplet
 (b) results: 1460 - Moderate - Silyl ester
1380 - Moderate - S.O. ester

Odor: Gasoline & Oil

API Gravity: _____
 Solubilities: _____

Ultraviolet/Visible Spectroscopy results: _____

Distillation Range: _____
 Flash Point: _____

Special Tests: (specify)

Conclusions Infrared spectra on Samples # 434 and #270 are similar.

Date Transmitted: 7/19/93 by: Daniel Florida

SURVEILLANCE SECTION

ACTION MEMO

INDUSTRIAL WASTE DIVISION

TO: H. Edmire
FROM: L. Perreis

SUBJECT:

DATE: 2/16/82

FILE DISPOSITION:

SPECIAL PROBLEM

ROUTINE IND. INVEST.

GENERAL MEMO

Mullanphy St Outfall (U.S. Army)

TIME:

SPECIAL INSTRUCTIONS: Investigate report of oil slick in river from Mullanphy St. outfall. - check apex oil. See attached report. Report findings to coast guard. Determine source + have discharge stopped.

CONTACT PERSON: Lt. ENNIS COAST GUARDTEL. NO.: 425-4657

RESULTS OF INVESTIGATION: 2/16/82 Met BM³ Al Robinson and QM³ Mark Winkler. The film on water coming from Out fall was very light. Coast Guard and I feel that this is due to street run-off. Bare copy of report to coast guard H. Edmire

FOLLOW-UP REQUIRED

YES NO

SIGNED: _____

cc of Final Report To: _____

MEMO TO: B. A. Rains
FROM: B. Schuchman
SUBJECT: Oil Spill
DATE: January 7, 1975

On Monday, January 6, 1975 at 16:00 hours, I was instructed by Bill Breidenbach to join the U.S.C.G. at the foot of Mullanphy Street in regards to a large oil spill. Upon arriving at the scene I found Ensign Taylor, BMI O'Neil and two other U.S.C.G. personnel present and boarding a petroleum barge in the fleet tie-up area at the foot of Mound Street. Together we inspected the Apex Oil Facility at Mullanphy and Wharf Street. It was here where we located the source of the Heavy Bunker class oil. Of the six huge storage tanks at this facility, the Southeast tank had overflowed during a recent fuel transfer. We also located in the burn area a rain water drain which drains to a trench which in turn runs into a catch basin attached to the storm drain on Wharf Street. At 16:50 hours Bill Breidenbach relieved me.

On Tuesday, January 7, 1975, I was instructed to meet with the U.S.C.G. to dye the catch basin and storm sewer at the Northwest corner of Mullanphy and Wharf to locate the discharge point of the line to the Mississippi River. With the assistance of MSD Crew 55 we opened a fire hydrant to speed the flow of water. Approximately 1000 gals. of water was introduced as a vehicle, along with a liter of Rhodamine Red Dye, at 10:15 hours. At approximately 11:00 hours the crew of 55 and myself located the outfall. The outfall lies buried beneath bank Rip-Rap at Florida Street. The Rhodamine Dye was observed flowing freely and entering the Mississippi River at this point (M.M. 180.5 approx.).

I issued a written statement, at the U.S.C.G. request, to this effect, Heavy Black Oil was noted in both the catch basin and storm sewer. This line was dyed and the Dye appeared at the foot of Florida Street entering the Mississippi River.

At 11:10 hours I concluded the Dye investigation.

cc: B. Breidenbach

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Sujit

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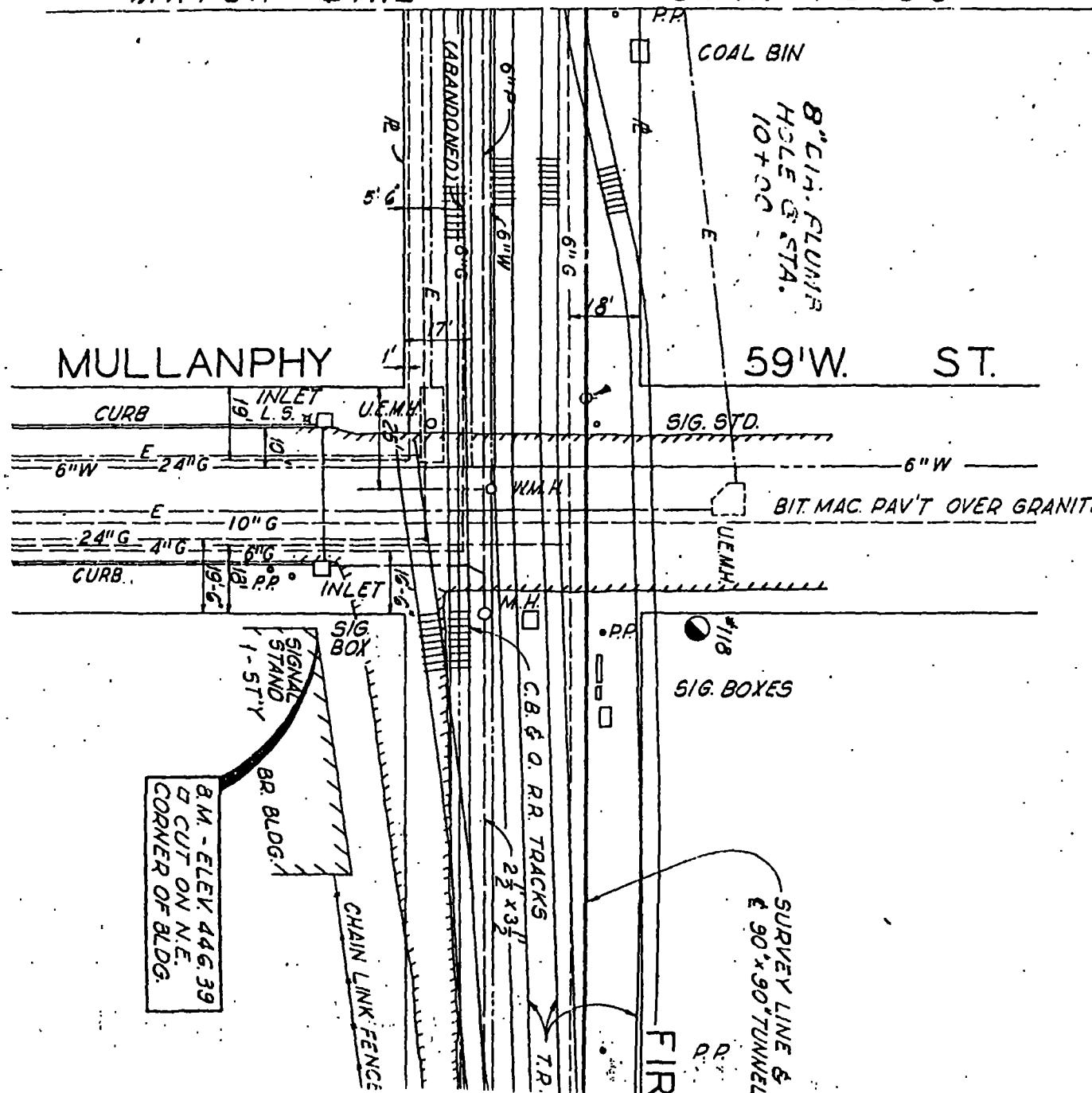
20

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A detailed map of the Providence, Rhode Island area. The map shows a grid of streets with various landmarks and street names labeled. A prominent feature is a large arrow pointing from the letters "RI" towards the map area. Other labels include "NORTH MARKET", "TECHNIUM", "MADISON", "CHAMBERS", "BEAUME", "HEMPSTEAD", "BROOKLYN", "MOUND", "MULLANPHY", "FLORIDA", "DICKSON", "OFALLON", "ASHLEY", "S. VINE", "W. VINE", "VETERANS BRIDGE HEADS", and "CARR". The map also includes a grid of small squares representing lots or parcels of land.

MATCH LINE

STA. 9-00



SURVEILLANCE SECTION

ACTION MEMO

INDUSTRIAL WASTE DIVISION

TO: D. Fuller

FILE DISPOSITION:

SPECIAL PROBLEM

FROM: R. Powers

ROUTINE IND. INVES.

SUBJECT: 21 BROOKLYN (CONTINENTAL CAVC.)

GENERAL MEMO

DATE: 3/4/83

TIME:

SPECIAL INSTRUCTIONS: Investigate report of chemical subst.
draining from RR yard across parking lot
to sewer on above facility.CONTACT PERSON: MR. TANNEHILL TEL. NO.: _____RESULTS OF INVESTIGATION: On March 4, 1983 I MADE A SITE VISIT TO BROOKLYN ST. I FOUND A FLOW OF 50 GPM GOING TO OUR SEWER ON TYLER. I TRACED THE FLOW TO THE BASE OF THE RETAINING WALL ON Hough St. AND COLLECTED A SAMPLE.ON MARCH 17, 1983 I RETURNED WITH MSD CREW #III. WE CHECKED THE SEWERS IN THE AREA. THE SEEPAGE WAS COMING FROM A 15" MAIN WHICH COLLAPSED. MIKE MERLIN THE CREW LEADER SAID HE WOULD BEGIN REPAIR PROCEEDINGS IMMEDIATELY.

FOLLOW-UP REQUIRED

YES NO

SIGNED:

D. Fuller

cc of Final Report To: _____

3/18/83

MSD Industrial Waste Laboratory
Special Sample Form

Lab. No. 1341 Comp. Grab. Date Received 4 MARCH 1983
 Sample Date 4 MARCH 1983 Sample Time 5:45 PM Collected by D. FULLER
 Requested by L. POWERS Truck No. _____
 Sample Source GROUND WATER
 Sampling Location BROOKLYN ST & RR TRACKS
 Reason for sample COMPLAINT
 Trunk Sanitary Stream Storm Seepage STP Hauler
 Other (explain) _____

Analysis: except as noted mg/L ug/L mg/kg % comp other _____
 pH 4.8 (units) F _____ Hg _____
 SPC _____ (umhos/cm) Cl _____ As _____
 ALK 548 CN _____ Ba _____
 ACI _____ CNA _____ Be _____
 TS _____ KJN _____
 SS _____ NH₃ _____
 VSS _____ NO₃ _____
 %V _____ NO₂ _____
 SET _____ (ml/L) PHT _____ Pb _____
 GRE WIND BLOW ON HOWARD ST. PHO _____ Ni _____
 FOR MARCH 17, 1983 SO₄ _____ Se _____
 COD 2100 SO₂ _____ Ag _____
 TOC _____ S _____ Zn _____
 PHENOMENON FROM A 15" MAIN WHICH COLLAPSED. MIKE
 MCARLIN THE CREW LEADER SAID HE WOULD Sb⁺ & Cd REPAIR
 PROCEEDINGS IMMEDIATELY. _____ _____
 Color: _____ Cr⁺⁶ _____ _____
 Odor: YESTER-LIKE Tot. Hardness _____
 Appearance: _____ Tot. Chlorine _____

Organics: IR GC LEL RAD UV FLUOR ID _____
 Biological: Coliform: Total: _____ No./100ml
 Microscopic: Bioassay: Fecal: _____ No./100ml
 Fecal Strep: _____ No./100ml

Remarks:

Date Transmitted:

3/9/83

by:

